AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A communication system for efficiently transmitting information signals in discrete cell/packets, said system comprising at least two local area networks that are connected by a wireless communication link, each local area network comprising:

(a) a switch for providing a plurality of cell/packets, each cell/packet comprising a header and a payload;

(b) an interface for connecting said switch to said wireless communication link, said interface comprising:

(i) means for discriminating each cell/packet in said plurality of cell/packets;

(ii) means for detecting a header in each of said cell/packets and for separating said header from payload;

(iii) means for compressing said separated header using a look up table; and

(iv) means for combining said compressed header with said payload to form compressed header cells;

(c) a frame assembler for assembling said compressed header cells into a frame; and

(d) means for transmitting said assembled frame.

2. (original): A communication system as set forth in claim 1 further comprising encoding means for encoding said assembled frame.

3. (previously presented): A communication system as set forth in claim 1 further comprising an interleaver for interleaving a plurality of said assembled frame.

4. (withdrawn): A communication system as set forth in claim 1 further comprising an interface to the wireless communication link.

5. (previously presented): A communication system as set forth in claim 1 further comprising:

(e) means for receiving said transmitted ~~frames~~ frame from said wireless communication link; and

(f) a frame disassembler for disassembling said frames into a plurality of compressed header cell/packets.

6. (original): A communication system as set forth in claim 5, wherein said interface further comprises:

(v) means for discriminating each compressed header cell in said plurality of compressed header cells;

(vi) means for detecting a header in each of said compressed header cells and for separating said header from payload;

(vii) means for decompressing said separated header; and

(viii) means for combining said decompressed header with said payload to form cell/packets.

7. (original): A communication system as set forth in claim 5, wherein said cell/packets comprise ATM cells.

8. (original): A communication system as set forth in claim 5, wherein said cell/packets comprise frame relay packets.

9. (original): A communication system as set forth in claim 5, wherein said cell/packets comprise Internet packets.

10. (cancelled): An arrangement of signals in a cell/packet frame with compressed header comprising:

a first number of bytes representing an original header portion comprising a second number of bytes, said first number being less than said second number; and

a payload portion.

11. (cancelled): The arrangement of signals in a cell/packet frame as set forth in claim 10 wherein said compressed header is a predetermined size for all cell/packets.

12. (currently amended): An arrangement of signals in a cell/packet frame with compressed header comprising:

a first number of bytes comprising a table index and representing an original header portion comprising a second number of bytes, said first number being less than said second number; and

a payload portion

wherein said first number comprises two octets and said second number comprises four octets.

13. (currently amended): An arrangement of signals in a cell/packet frame with compressed header comprising:

a first number of bytes comprising a table index and representing an original header portion comprising a second number of bytes, said first number being less than said second number; and

a payload portion

wherein said first number comprises at least one octet and said second number comprises at least two octets.

14. (previously presented): The arrangement of signals in a cell/packet frame as set forth in claim 12 wherein said cell/packets comprise ATM cells.

15. (currently amended): The arrangement of signals in a cell/packet frame as set forth in claim 12 wherein said cell/packets comprise frame relay ~~packets.~~ packets and Internet packets.

16. (previously presented): The arrangement of signals in a cell/packet frame as set forth in claim 12 wherein said cell/packets comprise Internet packets.

17. (previously presented): An apparatus for a satellite/wireless communication system for transmitting information in a plurality of cell/packets, said system comprising at least two local area networks that are connected by a satellite/wireless communication link, said apparatus comprising:

(i) means for discriminating each cell/packet in said plurality of cell/packets;

(ii) means for detecting a header in each of said cell/packets and for separating said header from payload;

(iii) means for compressing said separated header using a look up table; and

(iv) means for combining said compressed header with said payload to form compressed header cell/packets;

(v) means for discriminating each compressed header cell/packet in said plurality of compressed header cell/packets;

(vi) means for detecting a header in each of said compressed header cell/packets and for separating said header from payload;

(vii) means for decompressing said separated header; and

(viii) means for combining said decompressed header with said payload to form cell/packets.

18. (original): An apparatus for a satellite/wireless communication system as set forth in claim 17, wherein said means for compressing and said means for decompressing comprises means for correlating original header and transmitted compressed header information.

19. (original): An apparatus for a satellite/wireless communication system as set forth in claim 18, said apparatus further comprising means for transmitting from a transmitting location, comprising means (i)-(iv) to a receiving location comprising means (v)-(viii) information for correlating original header and transmitted header information.

20. (original): A communication system as set forth in claim 17, wherein said cell/packets comprise ATM cells.

21. (original): A communication system as set forth in claim 17, wherein said cell/packets comprise frame relay packets.

22. (original): A communication system as set forth in claim 17, wherein said cell/packets comprise at least one of ATM cells and frame relay packets.

23. (previously presented): An apparatus for an frame relay wireless communication system, said system comprising at least two local area networks that are connected by a satellite/wireless communication link, said apparatus comprising:

(i) means for generating a one or more Spackets for each frame relay packet cell used for conveying payload information;

(ii) means for detecting a header in each of said Spackets and for separating said header from payload;

(iii) means for compressing said separated header using a look up table; and

(iv) means for combining said compressed header with said payload to form compressed header cells;

(v) means for discriminating each compressed header cell in said plurality of compressed header cells;

(vi) means for detecting a header in each of said compressed header cells and for separating said header from payload;

(vii) means for decompressing said separated header; and

(viii) means for combining said decompressed header with said payload to form Spackets.

24. (original): An apparatus for a frame relay wireless communication system as set forth in claim 23, wherein said means for compressing and said means for decompressing comprises means for correlating original header and transmitted compressed header information.

25. (original): An apparatus for a frame relay wireless communication system as set forth in claim 23, said apparatus further comprising means for transmitting from a transmitting location, comprising means (i)-(iv) to a receiving location comprising means (v)-(viii) information for correlating original header and transmitted header information.

26. (original): An apparatus for a frame relay wireless communication system as set forth in claim 23, further comprising means for assembling a plurality of Spackets into a frame relay packet.

27. (previously presented): A method of communicating cell/packets, each comprising a header portion and a payload portion, in a modified frame format for a communication system, said system comprising at least two local area networks that are connected by a satellite/wireless communication link, comprising:

(a) separating said header portion and said payload portion for each cell/packet:

(b) identifying N of M header octets in said header;

(c) compressing said N header octets into L octets using a look up table;

(d) combining said L octets with said payload portion;

(e) transmitting said combined L octets and payload portion within a frame;

(f) receiving said frame;

(g) separating said L octets from said payload;

(h) decompressing said L octets into N header octets;

(i) generating M header octets from said N header octets; and

(j) combining said M header octets with said payload portion to create a cell/packet.

28. (original): The method of claim 27 wherein said compressing step further comprises:

comparing said N header octets to the content of a header compression table containing index values.

29. (previously presented): The method of claim 28 wherein said comparing step comprises at least one of hashing and table look-up techniques.

30. (original): The method of claim 27 wherein said decompressing step further comprises:

comparing said L octets to the content of a header decompression table containing N header octets.

31. (original): The method of claim 30 wherein said comparing step comprises at least one of hashing and table look-up techniques.

32. (previously presented): The method of claim 24 wherein said header comprises a HEC-based header.

33. (original): The method of claim 27 wherein said header decompression table has H-1 entries, wherein $H = 2n$, wherein $n <= 16$.

34. (original): The method as recited in claim 27 wherein said transmission step further comprises generating an input entry for a compression table and generating an entry for a decompression table and transmitting said decompression table entry for input into said decompression table.

35. (original): The method as recited in claim 34 wherein said entry is transmitted in a cell.

36. (original): The method as recited in claim 35 wherein said entry is created and sent ahead of a user cell.

37. (previously presented): An apparatus for an Internet satellite/wireless communication system, said system comprising at least two local area networks that are connected by a satellite/wireless communication link, said apparatus comprising:

(i) a generator for generating a one or more Internet cell/packets for conveying payload information;

(ii) a header detector operable to detect a header in each of said packets and for separating said header from payload;

(iii) a compressor for compressing said separated header using a look up table; and

(iv) a combining unit for combining said compressed header with said payload to form compressed header cell/packets;

(v) a discriminator for discriminating each compressed header cell in said plurality of compressed header cell/packets;

(vi) a header detector for detecting a header in each of said compressed header cell/packets and for separating said header from payload;

(vii) a decompressor for decompressing said separated header; and

(viii) a combining unit for combining said decompressed header with said payload to form packets.

38. (original): An apparatus for a frame relay wireless communication system as set forth in claim 37, wherein said compressor and said decompressor comprises means for correlating original header and transmitted compressed header information.

39. (original): An apparatus for a frame relay wireless communication system as set forth in claim 37, said apparatus further comprising means for transmitting from a transmitting location, comprising apparatus (i)-(iv) to a receiving location comprising apparatus (v)-(viii) information for correlating original header and transmitted header information.